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OXC-0832-67
Copy 5 of 8

20 June 1967

MEMORANDUM FOR THE RECORD

SUBJECT: Special BLACK SHIELD Engineering and Test Support
for YJ58 Engines

25X1 1. Under [] work on engineering and test support of the YJ engines used in the OXCART Program would have stopped as of 30 June 1967. Pratt & Whitney has stated that if there is any possibility of Operation SUPER MAIDEN continuing beyond November 30, 1967, engineering and test support for the YJ version of the J58 engine should be continued through Calendar Year 1967.

25X1 2. Pratt & Whitney has estimated that continuing one experimental YJ engine (Engine XD-1) in the test program through the end of Calendar Year 1967 at the Florida Research and Development Center would require an estimated [] in funding over and above the current Air Force funded Development Program for Fiscal Year 1968. Pratt & Whitney has stated, however, that if it is determined that Operation SUPER MAIDEN will actually cease November 30, 1967, engineering and test support to solve unforeseen short term field problems on an ad hoc basis could be performed within the [] funding requested by Pratt & Whitney for Fiscal Year 1968.

25X1 3. The amount of [] should provide adequate engineering and test support for solutions to problems which are peculiar to the YJ engines. Such support guarantees continuing full time support by engineers who are familiar with the YJ version of the engine and its Hamilton Standard main fuel control system, and a continuing supply of necessary development hardware and parts to assure solution of new flight surfaced problems. This includes support for main fuel controls at Hamilton Standard. The new operating environment at Kadena could result in as yet

USAF review(s) completed.

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unforeseen problems which would require expeditious solution if Operation SUPER MAIDEN is to continue successfully. The YJ test engine at FRDC designated as XD-1 is currently testing possible solutions to the turbine outer rear exhaust case failure which occurred in engine 246 while Article 131 was being deployed to Kadena. Photographs of this failure, which clearly indicate the potential seriousness of this problem, are available in D/R&D and D/M. This is a typical example of new problems which will arise as long as flight operations with a particular engine model continue.

25X1 4. The Fiscal Year 1968 funding requested by P&W for J58 Development is [REDACTED]. However, the Air Force has indicated [REDACTED] is available and the final negotiated figure may be somewhere between the two figures. There are currently eight active engines involved in the J58 engine development program at FRDC, including XD-1. It is planned to drop XD-1 at the end of FY 67 (June 30) and retain 7 engines in the program. If the smaller of the above figures [REDACTED] is divided by the 7 planned engines in the program, the estimated cost of FY 68 development per engine in the development program is [REDACTED] for one year, or [REDACTED] for 6 months. This is then the estimated cost of keeping test engine XD-1 in the program through the end of Calendar Year 1967 to assure continued BLACK SHIELD Engineering and Test Support for those areas which are peculiar to the YJ engines.

25X1 5. As indicated in paragraph 2, Pratt & Whitney states that if Operation SUPER MAIDEN should cease on November 30, 1967, short term field problems could be solved on an ad hoc basis within the [REDACTED] funding requested by P&W for FY 1968. However, this ad hoc support may not be available [REDACTED] is the final negotiated figure for FY 1968, and, furthermore, this sort of reacting to short term field problems on an ad hoc basis might require modifying a YJ service engine, if available, to the configuration necessary for testing required to solve a particular YJ engine problem. This would not provide the continuing quick reaction type of support, to which we have become accustomed, which is required to solve possible unforeseen major reliability or safety of flight problems that may develop.

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PSD/R&D/OSA, [REDACTED] (20 June 67)
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